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During this module you will be asked some questions to simply provoke thought and test your current knowledge please have a note pad or supervision workbook to hand to make notes. Your performance will only be measured on the answers you select when completing the knowledge test at the end of the module.

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Learning Outcomes

- Understanding the importance of maintaining clear evacuation routes at all times
- Knowing how to store hazardous substances and materials
- Understanding how to promote fire safety in a work setting
- Knowing the self-responsibilities and the responsibilities of others for fire safety and prevention
- Understanding the use of fire risk assessments
- Knowing emergency procedures to be followed in the event of a fire in the work setting

Complementary Manuals

- Health and Safety
- Risk Assessment

Chapter One

Importance of fire safety

In 2013 the owners of a residential home in Liverpool were fined £44,000 following a fire at their premises. Staff had evacuated safely but left vulnerable residents in their rooms.

Offences included:

- A lack of adequate fire risk assessment
- Failing to maintain an effective fire alarm system
- Failing to have a suitable evacuation procedure

Three of the most common causes of fires in the workplace are:

1. Arson
2. Human error
3. Electrical faults

The majority of fires are preventable; they either start as a result of deliberate actions (arson) or they are made more likely by carelessness and poor maintenance standards (discarded cigarettes, unattended fryers, damaged wiring etc.) Employers and employees should work together to reduce the likelihood of fires occurring and to put in place appropriate emergency procedures to limit damage if they do.

If a fire starts in a care home it can have catastrophic effects for employers, staff, clients and visitors. Lives may be lost, buildings destroyed, and businesses ruined if fire safety precautions are not taken seriously.

Possible financial costs of fires:

- Repairs
- Fines
- Increased insurance premiums
- Training
- New safety systems
- Loss of income / business

Possible human cost of fires:

- Loss of work
- Pain
- Scarring
- Death
- Guilt / grief
- Homelessness
- Unemployment

The costs of fires to society as a whole are significant and all employers and managers of premises have a legal and moral duty to ensure adequate fire safety provision.

Prior to 2005 commercial buildings were inspected by local fire and rescue authorities who issued certificates of compliance; these authorities now have an enforcement role. The new legislation that changed the way that fire safety is managed was called the Fire Safety Regulations, Regulatory Reform (Fire Safety) Order 2005; this is also referred to as the Fire Safety Order. A document 'Fire Safety Risk Assessment: Residential Care Premises' which is produced by the government and gives advice on complying with the Order in a care setting can be accessed at www.firesafetyguides.communities.gov.uk.

Fire Safety Regulations, Regulatory Reform (Fire Safety) Order 2005

In your workplace there must be a 'responsible person' who is in charge of fire precautions and making arrangements for emergencies. To comply with the Fire Safety Order, **they must:**

- Carry out and record risk assessments with a focus on 'at risk' groups
- Appoint a competent person to assist with meeting the requirements of the Order (this should be someone with adequate knowledge and skills; in small businesses the 'responsible person' can nominate themselves)
- Give all employees clear and adequate information, instruction, training and supervision
- Consult employees about their responsibilities and any changes to provisions
- Provide information for clients, visitors etc.
- Appropriately manage dangerous (i.e. flammable) substances
- Determine the way in which emergency services are to be contacted
- Maintain premises and equipment

The key to good fire safety management is risk assessment which will be discussed in detail in Chapter 2. Risk assessments should pay particular attention to the needs of those who will be at increased risk in the event of a fire occurring. 'At risk' groups include visitors who will be unfamiliar with the layout of the premises and the emergency arrangements; children who may lack the awareness or understanding necessary to take care of their own safety; and clients.

For the purposes of risk management clients can be split into three groups according to the amount of staff support they are likely to require:

1. Independent – unimpaired mobility, no more than minimal assistance needed
2. Dependent – anyone who is neither independent or very highly dependent
3. Very high dependency – people for whom evacuation may be potentially life threatening and who would need significant assistance

The client's level of awareness, mental capacity and cooperativeness must also be considered, as someone who is physically capable but doesn't understand what to do when the fire alarm sounds will require staff assistance.

Clients should be reviewed regularly to ensure that emergency plans are kept up to date and relevant.

Emergency plans

Every workplace should have a written emergency plan based on risk assessments and including the following:

- How people will be made aware if there is a fire
- Staff action on discovering a fire
- Evacuation procedures
- Assembly points
- Escape routes
- Firefighting equipment and use
- Details of people with special responsibilities

All staff should be aware of the emergency plan and it should be readily available to read.

Take a moment and try to answer the following questions using either your existing knowledge or what you can find out by looking at posters and other written information around your workplace. You may like to make a note of them, it may help you later.

1. What should you do if you discover a fire?
2. Who is responsible for calling the fire service?
3. What information will the fire service require?
4. Who has overall responsibility for fire safety?
5. Where is your assembly point?
6. Do you carry out a single stage, progressive horizontal or delayed evacuation?

Information, training and supervision

As previously mentioned employers have a legal duty to provide their staff with adequate information, instruction, training and supervision to manage fire safety and know how to act in an emergency. What you actually get will depend on the size of the premises you work in, the times you work (e.g. night shifts), and your personal responsibilities.

In general, all new staff will be given a tour of the premises to identify escape routes; alarm call points etc. Emergency plans will be communicated to all staff and can be read at any time and there will be regular (ideally 6 monthly) fire awareness sessions. Staff members with special responsibilities or who may be working alone or in isolated parts of the building may need more specialist training on issues such as firefighting and correct use of the alarm system.

Chapter Two

Fire Safety Risk Assessment

The key to fire safety is risk assessment. By carrying out regular and appropriate assessments employers can ensure that their fire safety procedures, prevention measures and fire precautions are in place, adequate and working.

Fire risk assessments have 3 main aims and 5 steps. The aims are:

1. Identify fire hazards
2. Reduce risks
3. Make appropriate fire safety arrangements.

The 5 steps, which we will look in at in more detail, are:

1. Identify fire hazards
2. Identify people at risk
3. Evaluate, remove, reduce and protect from risk
4. Record, plan, inform, instruct and train
5. Review

(Adapted from Fire Safety Risk Assessment: Residential Care Premises)

Fire Hazards

Fire hazards may be things which make fires more likely to happen; things which reduce the chance of fires being detected (e.g. broken smoke detectors) or things which make it more difficult to get to safety in the event of a fire occurring (e.g. wheelchairs stored in corridors).

For a fire to start three elements are required; a source of fuel, a source of ignition and oxygen. Prevention is always better than cure, so control measures should be focussed on preventing fires starting but must also include equipment, procedures and arrangements to reduce damage and loss caused when they do.



Oxygen is of course everywhere (risk of fire will be increased by the presence of bottled oxygen); sources of ignition and fuel are also in plentiful supply but take many different forms.

Look at the room you are in now and try and identify a few sources of the following:

Ignition e.g. a candle flame

Fuel e.g. paper

When carrying out their formal risk assessments managers should draw up a preliminary list of hazards they know exist, such as cooking equipment, and then identify others by carrying out an in-depth inspection of the premises and of working practices.

At all other times managers and employees alike have a responsibility to carry out regular visual checks of the workplace to spot new hazards and take action to remove or control them.

People at fire risks

As we know from Chapter 1, certain groups of people will be at greater risk than others in the event of a fire occurring. To be adequate risk assessments must identify **all** people who may be affected; this may include:

- Staff
- Clients
- Visitors
- Contractors (e.g. decorators)
- Passers by
- Neighbours
- Emergency services personnel

It's important that the needs of each of these groups are assessed and that higher risk groups and individuals are given special consideration; for example, visitors may include children and there may be members of staff with special needs.

Highly dependent clients, and anyone else who will require extra support in the event of a fire occurring, may need to have their own personal emergency evacuation plan (PEEP). These will be discussed further in Chapter 4.

Risk control

Once your manager has identified the fire hazards which exist in your workplace and the different people who may be affected they need to decide the likelihood of fires occurring and work out how they are likely to spread.

Fires move in three ways:

1. Convection

2. Conduction
3. Radiation

Smoke, heat and flames can travel through vents, move across ceilings and pass through walls. The speed with which this happens will depend on where in the building the fire is, the amount of flammable materials present and the construction of the building. The risk assessor must pay particular attention to areas where people are likely to be and routes which they will use to exit the building.

If there is a possibility of exit routes filling with smoke then alternative routes should be available as smoke not only prevents people from seeing, it can also make it impossible to breathe.

To adequately control fire hazards and protect people on the premise's, managers must have identified the following:

- Any opportunities for arsonists - e.g., piles of rubbish outside the building
- Acts or omissions which would allow a fire to start – e.g. carelessly dropping cigarettes
- Accidents waiting to happen – e.g. candles being used in clients' rooms
- Blocked escape routes
- People / places which are most likely to be affected if a fire starts
- Factors which will increase the difficulty of evacuation
- Fire control measures which are already in use e.g. fire doors / fire retardant materials

Control measures should then be introduced which:

- a. Adequately reduce the risk of fires and the likelihood of damage and loss
- b. Are suitable for the premises and its purpose i.e. they do not make the environment any more 'institutional' than necessary

These control measures are discussed in greater detail in units 3 and 4 and include good housekeeping; correct storage; emergency equipment; signage and training.

Documentation and training

The introduction of control measures will only work if everyone involved knows about them and takes a coordinated, co-operative approach to their implementation. The findings of risk assessments should be recorded and communicated to all staff along with specific information about action they may need to take.

Staff and clients need training and information that is adequate and suitable for their level of understanding and there must be information available for all visitors to the premises.

The findings of risk assessments will be used in the creation of the emergency plans which will become written documents readily available to all.

Review

Control measures will only work if they are regularly revised and updated to keep up with changing circumstances; your manager should be constantly monitoring preventative and

emergency provisions and carry out a general review every 6 month or so. It will also be necessary to review the situation if any of the following events occur:

- Work activities change, or new equipment is introduced
- The building is altered
- There are changes in the amount or type of hazardous substances stored on the premises
- A fire precaution has failed or malfunctioned
- Problems have been reported
- There are changes to the type or number of clients and staff on the premises
- Contractors are to carry out work on the premises e.g. decorating

Chapter 3

How to prevent fire

Any fire that starts has the potential to cause significant harm to people and damage to property. Therefore, every effort must be made to prevent fires starting in the first place.

In this Chapter we will look at the control measures that will help to reduce the likelihood of fires starting, primarily by controlling the way in which oxygen, fuel and heat are able to come together.

Manager's risk assessments will have identified high risk areas, activities and materials and there are likely to be common links between control measures used for very different purposes.

Take a moment to think about the following in your individual workplace and make a few notes

- High risk areas for fires in my workplace
- High risk activities that happen in my workplace
- Dangerous materials / equipment in my workplace

Housekeeping instructions

The importance of good domestic practices to the safe running of a care environment cannot be overestimated. Apart from the obvious part it plays in reducing the spread of infection, a clean and tidy environment also reduces the likelihood of accidents and limits the hazards associated with fires in the following ways:

1. Prevents build-up of dust and debris which may be sources of ignition or fuel
2. Ensures exits and escape routes are kept clear of obstructions
3. Keeps detectors clean and unobstructed so they can work effectively

Specific tasks:

Kitchen – clean up grease spatters and spillages when they occur; clean inside microwaves and ovens thoroughly and regularly; dispose of used oil carefully and in an appropriate container; keep paperwork, curtains etc. at a safe distance from hobs; empty crumbs from toasters after use; clean all filters thoroughly and regularly to avoid build-up of grease.

Laundry – keep washing powders, piles of laundry etc. in their correct places; clean up spillages immediately (some washing powders are highly flammable); clear out filters and ventilation pipes after each use; allow drying cycles to finish before removing laundry as hot piles of certain fabrics may spontaneously combust.

Smoking areas – clean ashtrays regularly to avoid overflowing; use metal bins for disposal and check for smouldering cigarette ends; keep areas free of rubbish; use only flame retardant materials for furnishings.

Rubbish – remove rubbish regularly to a secure outside area and empty all bins at the end of the day shift / beginning of night shift; provide an adequate number of suitable bins throughout the premises.

Storage – all equipment, cleaning materials etc. must have a proper place and be returned there when not in use; this will avoid flammable substances being left near heat sources and wheelchairs / hoists etc. blocking fire exits. Storing rubbish and flammable materials securely will also deter arsonists who will take advantage of easy opportunities to start fires.

Paperwork, bedding etc. should not be stored near heat sources. Care must be taken to keep spaces under stairways clear of flammable substances such as cleaning materials and paints as these will accelerate the speed at which fire can cut off a means of exit.

Person specific responsibilities

As an employee you have a legal duty to protect your own health and safety and that of your colleagues; few things can cause as much damage and devastation as a fire so it's essential that you take appropriate steps to prevent fires starting.

There are a number of different ways in which you can actively reduce the likelihood of fires and your employer should provide regular training sessions to maintain your awareness of hazards and control measures. While working you should become used to cleaning and tidying 'as you go' so that flammable materials are returned to their proper place, pieces of equipment do not obstruct fire exits and hot / electrical equipment is not left switched on for longer than is necessary.

When working with hot oil / irons etc don't be tempted to leave them unattended even for short periods of time; it's very easy to get distracted and for accidents to happen very quickly. In the event that something does go wrong and a fire starts stay calm and try to act quickly but without rushing to reduce the likelihood of fire spreading; raise the alarm immediately to allow safe evacuation of the premises and if you can take action safely do.

For example:

- If an oil filled pan catches fire do not try to move it; you may feel an urge to try and get it outside or into the sink, you mustn't attempt this as the pan will be very hot and possibly heavy and you are likely to drop it making the situation worse. If it is safe to do so switch off the power supply to the hob and cover the pan with a fire blanket or damp cloth
- If a fire starts in either a microwave or a standard oven leave the door closed and disconnect the power

It's important for you to be vigilant when at work, look out for hazards; correct them if you can, report them if you can't. If you are aware that colleagues or clients are creating fire

hazards you must bring your concerns to the attention of your manager who should deal with the situation in a way that corrects the problem without causing bad feeling or reducing the likelihood of staff raising concerns in future.

As deliberately started fires are a major concern on work premises keep an eye out for people who have no business being in or around the building(s) and look out for potentially attractive fuel sources such as piles of cardboard, old pieces of furniture etc.

Electrical faults cause a significant number of fires each year, you can help reduce the likelihood of problems with faulty electrics by using your senses of touch, smell and sight. When using any electrical equipment look for signs of wear and tear or charring; if plugs or sockets feel warm don't use them until they have been checked and repaired by a competent person (you should also prevent anyone else from using them); finally if you smell hot plastic or burning look for possible causes.

As humans can be forgetful, checklists can be created to make sure that safety precautions and checks are carried out as regularly as necessary. They could include the following:

- Nightly check that all unnecessary electrical equipment is switched off
- Daily check that rubbish has been removed, cleaning materials are properly stored etc.
- Regular cleaning schedules for smoking areas

Safety maintenance

The safety of electrical equipment used in your workplace will rely to a great degree on the way in which it has been installed and the regularity with which maintenance is carried out. There are no acceptable shortcuts when it comes to electrical safety; your employer must use competent and appropriately qualified individuals to carry out all electrical work and care must be taken to ensure the following:

- Electrical systems must include all appropriate safety measures, i.e. be properly wired, fused
- Any electrical equipment to be used in wet areas (e.g. bathrooms) must be suitable for purpose
- All electrical equipment (including items belonging to clients) must be tested by a competent individual on a regular basis
- Employers must provide information and training for using electrical equipment
- You and your colleagues must check equipment before using it and use it properly.
- If you spot a fault you must immediately remove the equipment from use and report the problem

Fire prevention should be the concern of everybody who is working in, living in or responsible for premises. Even your clients can be involved as extra pairs of eyes to spot hazards and they should be given information and training appropriate to their level of understanding.

Chapter 4

Timely prevention steps

In the last Chapter we looked at ways of preventing fires from starting, however, employers must recognize that control measures may fail and appropriate emergency equipment and procedures are essential to protect people and minimize environmental harm.

Have a walk around your workplace and look for any fire safety equipment; why not record the different types you find.

Are they easily found?

Are they accessible?

Are the instructions of use clear?

Alarming people about fire

Fires once they start can rapidly grow and spread producing heat, flames and toxic fumes which can cause physical harm and make evacuation more difficult. It is, therefore, essential that your workplace is equipped with suitable systems to alert people to the presence of fire and that everyone knows what to do when the fire alarm sounds.

Fire detection and warning

The fire detection and warning system in your workplace should include the following four elements:

- Smoke / heat detectors
- Manual call points
- Audible alarm
- Control and indicator panel

Smoke / heat detectors must be positioned where fires are most likely to start (laundry, kitchen, bedrooms etc.) and should be kept dust free and away from obstructions such as shelving units. Manual call points (break glass points) will be positioned at exits to allow people to raise the alarm if they discover a fire. Triggering the alarm may also activate other safety systems such as automatic door closers.

If you discover a fire your first action must be to raise the alarm.

When a fire is detected an audible alarm should be triggered that alerts everyone on the premises to the fact that they need to evacuate the building(s); employees, clients and regular visitors should have heard the alarm in practice so that they are in no doubt as to its meaning. The alarm should be sufficiently loud for everyone to hear it and it may be necessary to make special arrangements to ensure that it will wake people at night. Clients or staff with hearing

problems will require an alternative warning method such as a flashing light or a vibrating device.

The control panel of the system should indicate the area affected by fire and staff should receive training as to their specific responsibilities when the alarm sounds i.e. are they going to be the one who checks the panel, will they be helping individual clients to evacuate.

The alarm system must never be switched off; all alarms including false ones must be recorded and investigated. If ever the system does fail or has to be disconnected for any reason temporary arrangements must be made, recorded and communicated to all staff.

Emergency services

Responsibility for alerting the emergency services must be allocated to a specific individual on each shift, identified either by role or by name. Whoever is responsible should dial 999 and ask for the fire service; they will then need to pass on certain relevant information including the home's name and address including postcode; the nature of the business e.g. residential elderly care; and the approximate number of people on the premises with brief description of any special needs.

Evacuation

To prevent panic in an emergency and to enable evacuation to be carried out as smoothly and quickly as possible regular and realistic fire drills should take place involving as many clients as possible.

There are 3 main types of evacuation:

- Single stage – when all clients are mobile and able to respond to an alarm everyone will evacuate as soon as they can
- Progressive horizontal – clients who are dependent (see page 5) may be moved to a place of safety within the building until either the fire has been dealt with or a more extensive evacuation can be carried out
- Delayed evacuation – highly dependent clients may be left in their rooms until the fire has been dealt with or it is possible to evacuate them to a place of safety. The rooms of these clients should have enhanced levels of fire protection.

The design of your workplace should minimize the speed with which fire could spread and make evacuation as simple as possible. Escape routes should be planned, signposted and kept clear of obstructions. As electrical systems may fail in the event of a fire occurring there must be an emergency lighting system that allows people to see what they are doing.

It is a legal requirement for your workplace to use appropriate signs to give instructions and information in the interests of health and safety. As your place of work also needs to be 'homely' signs should not be overused. It's likely you will find examples of each of the following around you:

Mandatory signs such as Fire Door Keep Shut – these are blue
Prohibitions such as No Smoking – these are red

Safe conditions such as Emergency Exit – these are green Warnings such
as Highly Flammable Substances – these are yellow

You may also have general information signs which are normally black writing on a white background

When people are evacuated from a building there must be a safe place for them to go to, this is generally referred to as an assembly point and it should be clearly signposted and positioned far enough from buildings to be safe if they collapse. Once everyone has gathered at this point a member of staff can check that everyone is safely out of the building. To do this they will need an up to date record of clients, a staff register and a visitors' book. For their own safety every visitor should sign in and out of the premises.

Staff and clients with special needs or those who are dependent or highly dependent are likely to need to be individually risk assessed to ensure their safety in an emergency. Managers should create and record Personal Emergency Evacuation Plans (PEEPs) for each relevant individual. These should be communicated to staff and be stored so that they are accessible when the alarm sounds.

Fire Exits

When they carry out fire risk assessment managers must take in to account the way that fires might spread, and measures should be put in place to prevent this.

Fire doors must either be kept shut or fitted with devices that will automatically allow them to close if the fire alarm goes off.

Fire doors are designed to hold back flames and smoke for up to 30 minutes; they must not be altered in any way (e.g. painted) as this may affect their resistance.

Fire Extinguishers

It is more important to evacuate people from a building than to stop and fight a fire. However, there are occasions when simple techniques can eliminate a fire before it takes hold – for instance when dealing with burning fat in a pan. It is important that any fire extinguisher used is the correct type. Anyone using a fire extinguisher should be trained to do so and should ensure that they have a safe exit from the building.

Portable fire extinguishers should be fixed in appropriate and accessible places where they can be seen. They are normally put near doors and along exit routes and should be chosen to be suitable for the most likely fires to occur in the area they are placed. For example a water extinguisher might be placed in a room where the main sources of fuel were paper and fabrics, while an office with computers and photocopiers would require a carbon dioxide extinguisher.

Water For wood, paper, textile and solid material fires	Foam For use on liquid fires	Powder For use on liquid and electrical fires	Carbon Dioxide (CO₂) For use on liquid and electrical fires
			
DO NOT USE on liquids, electric or metal fires	DO NOT USE on electrical or metal fires	DO NOT USE on metal fires	DO NOT USE on metal fires

<p>All emergency equipment should be checked on a regular basis; this table shows what should be checked and when. Some checks may be carried out by any member of staff, others will need to be done by a competent person.</p>	
Daily	<p>Visually check the following:</p> <ul style="list-style-type: none"> • Emergency exits • Fire doors • Escape routes • Fire alarm panel • Signs <p>Have a night time routine for closing doors; storing flammable substances etc.</p>
Weekly	<p>Test smoke / heat detectors and alarm system</p> <p>Check extinguishers / hose reels</p>
Monthly	<p>Check emergency lighting</p> <p>Check fire doors frames and seals</p>
Six Monthly	<p>A competent person should check emergency lighting and fire detection systems</p>
Annually	<p>All emergency equipment and systems should be checked by a competent individual</p>

Conclusion

Fire is a risk in all types of workplace, but residential care providers have to give special consideration to the diverse needs of their clients and their visitors. Owners, managers and care staff each have their own responsibilities for reducing the likelihood of fires occurring and ensuring that the correct action is taken if an emergency occurs. Adequate training, hazard awareness, maintenance and suitable detection systems can literally make the difference between life and death. Make sure you know how to prevent fires and what you will need to do if evacuation is necessary; don't rely on others to keep you safe.

References

Fire Safety Risk Assessment for Residential Care Premises

H M Government 2006 www.firesafetyguides.communities.gov.uk